



Can Multiple Neutral Conductors be Terminated in a Panelboard Termination?

Can I install more than one neutral conductor in a panelboard termination?

Multiple neutral conductors from separate branch or separate feeder circuits **cannot** be installed in the same neutral terminal.

Does the NEC address this issue?

The requirement has generally been enforced in the past by a close review of the manufacturer markings and by NEC[®] 110.3(B). Clause 12.3.10 of UL 67 (Panelboards) states, "An individual terminal shall be provided for the connection of each branch-circuit neutral conductor."

A code change was accepted for the 2002 NEC that made it clear that each grounded conductor (neutral) must have its own terminal. The 2008 NEC 408.41 is the location of the rule.

Why does the UL standard place this restriction on the panelboard?

Solid rationale exists for individual termination requirements in the product standards. Multiple neutral conductors in a single termination create a significant problem when the circuit needs to be isolated. In order to isolate the circuit, the branch breaker is turned off and the neutral is disconnected by removing it from the terminal. If the terminal is shared with another circuit, the connection on the other (still energized) circuit will be loosened as well. Loosening of the second neutral (loss of neutral) under load is a safety hazard, and may establish an overvoltage condition on lighting and appliances if the neutral is part of a 120/240 Vac multi-wire branch circuit. Also, the neutral assemblies are not evaluated with multiple neutral conductors in the same terminal.

Since I can't place two neutrals in a single termination, can I install the neutral and ground conductor in the same termination?

The connection of a neutral and equipment-grounding conductor in the same termination creates a similar issue. One of the objectives of the particular arrangement of bonding jumpers, neutrals and equipment grounds is to allow circuit isolation while keeping the equipment grounding conductor still connected to the grounding electrode (see UL 869A - Reference Standard for Service Equipment). When the neutral is disconnected, the objective is to still have the equipment ground solidly connected to the grounding electrode. If both the neutral and grounded conductor is under the same terminal, this cannot be accomplished.

For More Information:

For more information on installing multiple conductors in a single termination see the following references:

NEC® Section 110.14(A), 408.41

UL White Book—Electrical Equipment for use in Ordinary Locations (AALZ)

Visit the Schneider Electric North America Codes and Standards Electrical Shortz website:

<http://www.schneider-electric.us/support/codes-and-standards/codes-standards-technical-library1/product-documentation>

Schneider Electric USA, Inc.
3700 6th Street S.W.
Cedar Rapids, Iowa 52404 USA
1-888-SquareD (1-888-778-2733)
www.us.SquareD.com

“Electrical Shortz” are produced by the Schneider Electric North America Codes and Standards Group. These documents provide general guidance on a specific issue. Circumstances regarding particular installation issues may need further consideration.

© 2007–2010 Schneider Electric All Rights Reserved